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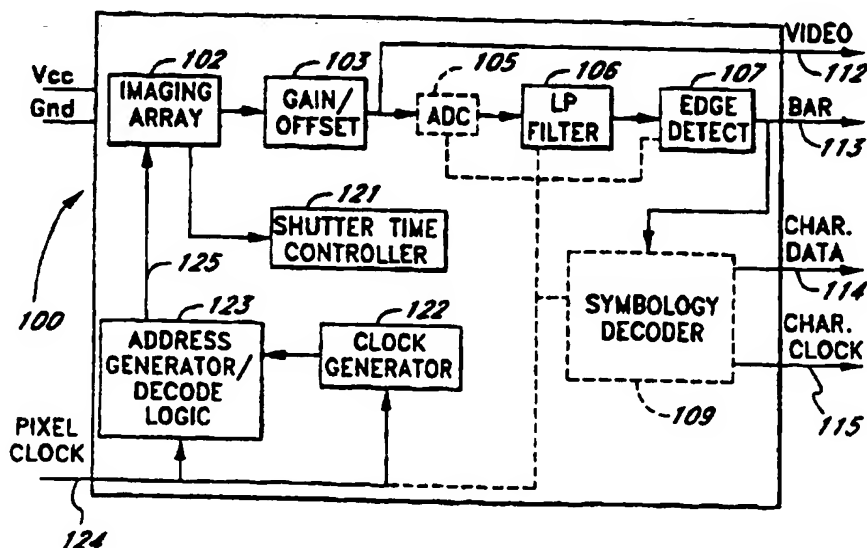
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(54) Optical reader with condensed CMOS circuitry

(57) A CMOS optical or symbol reader chip (100) comprises a CMOS imaging array (102) having a plurality of pixels each with a dedicated pixel-site circuit. Charge is accumulated at each pixel location transferred upon demand to a common bus. The exposure time of the imaging array is controlled using a feedback loop. One or more exposure control pixels are positioned adjacent to or within the imaging array and receive light along with the imaging array. CMOS signal processing circuitry is employed which, in combination with the exposure control circuitry (450), minimizes time-to-read over a large range of light levels, while performing spatially optimal filtering. Clocking cycles (122) and control signals are time-adjusted in accordance with the varying output frequency of the imaging array so as to provide invariant frequency response by the signal processing circuitry (109).



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